

Full Length Research Paper

The relationship between critical thinking abilities and classroom management skills of high school teachers

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High school teachers experience difficulties while providing effective teaching approaches in their classrooms. Some of the difficulties are associated with the lack of classroom management skills and critical thinking abilities. This quantitative study includes non-random selection of the participants and aims to examine critical thinking abilities of high school teachers and the relationships between classroom management skills and critical thinking abilities. A total of 212 high school teachers from Ankara, Turkey participated in the study. Data collection tools included two instruments: The Classroom Management Ability Scale (CMAS) and the California Critical Thinking Disposition Inventory (CCTDI). The results of the study indicated that teachers had positive beliefs about their classroom management skills critical thinking abilities. However, the findings also showed that there were not any significant relationships between classroom management skills and critical thinking abilities of high school teachers.

Key words: Critical thinking abilities, classroom management skills, high school teachers.

INTRODUCTION

Teaching in a classroom may be a quite challenging task for some teachers. Teachers take certain measures to create a meaningful learning environment. Some of the strategies include, but are not limited to having student-centered lessons, building a strong relationship with students, having clear expectations, and creating a positive learning environment. Spending time to learn more about the students, teachers may create quality and positive relationships with students. Teachers, who are unable to construct effective learning approaches in a classroom may have difficulty in engaging students in learning tasks. Quality teachers with strong teaching and communication skills need to be very skilfull in thinking

skills to analyze, apply, synthesize, and evaluate information so that the students could be able to focus on learning, behave well, and establish relevance between the learned tasks and real life events.

There have been rapid changes in every aspects of teaching methods of teachers as a result of students' behavior and need. Since the acceleration of students' learning needs increases day by day, the necessity of qualified man power who could keep up with such changes has also increased (Şimşek and Altinkurt, 2010). One way to provide effective teaching for quality students is quality education, and the key for quality education could be provided by significantly qualified

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teachers. Besides having such teachers, the other important tools for quality education are effective classroom management and critical thinking.

Creating a classroom atmosphere is possible by effective classroom management. Several items such as students' attitudes towards teachers, lessons, and the school may form a positive classroom atmosphere (Ök et al., 2002). Teachers need to know that teachers with effective thinking skills, students, classroom climate, and learning environment are main elements of classroom management (Bayrak and Eristi, 2005). As one of the main elements of classroom management, effective thinking skills may constitute a positive learning environment (Agaoglu, 2005). Teachers with good communication and thinking abilities may construct a healthy relationship with students and successfully manage their classrooms (Celep, 2002; Kısaç, 2002).

Teachers are the controllers of the environment and must insure the positive learning behaviors in schools (Wolfgang and Glickman, 1980). They are the ones, who first subject children to the discipline of their society (Chambliss, 1996). When students are taught to behave well, they will become, hopefully, well-behaved citizens (Farrell et al., 2001). There are many student behavior problems reported by teachers. Many teachers state that their students can be off-task, rude, unmotivated, and aggressive (Clement, 2002; Kaplan et al., 2002; O'Neill et al., 2001). They suggest that classroom management failures can result in physical aggression toward others, destruction of property, severe verbal noncompliance, and behaviors that are disruptive to the school or classroom setting. Classroom management includes the application of discipline practices and behavioral interventions (Evertson and Harris, 1999).

Classroom management refers to anything that would create effective student learning and positive student behavior in the classroom. When students misbehave, a quick and firm response may help solve the problem (Algozzine and Kay, 2002; McLeod et al., 2003). In some cases, teachers must take immediate actions to prevent behavioral problems in the classroom (Froyen, 1993). Responding to a student's problem behavior with assertiveness is crucial (Belvel and Jordan, 2003; Brophy, 1999; Zabel and Zabel, 1996). When implementing classroom management strategies, the responses of teachers should be consistent so that students are not confused (Algozzine and Kay, 2002; Harlan, 1996). Teachers' responses must provide corrective feedbacks and step-by-step directions to help students improve without labeling them (Fast et al., 2003).

Teachers model and highlight desirable student behaviors within a classroom management approach (Emmer and Stough, 2001). Most teachers have positive beliefs about their classroom management practices and carefully plan a positive classroom setting (Beaman and Wheldall, 2000; Simonsen et al., 2008). Teachers with strong skills prefer to use preventative rather than correc-

tive approaches to manage classroom situations. Teachers' self-confidence and strong beliefs about their classroom management skills enable them to come up with preventative classroom management strategies and prevent inappropriate behaviors from occurring (Clunies - Ross et al., 2008). When educators deal with student misbehaviors, preventative measures are more effective than corrective ones (Simonsen et al., 2008). Preventative classroom management approaches, however, can be developed while teachers exhibit critical thinking abilities (Sugai and Horner, 1999).

It is important to accept that in this information and technology age, teachers have to reach to all students in order to provide effective teaching and create a meaningful learning setting. Quality teachers know that being effective educators in the classrooms requires understanding how students learn and develop over the time (Beşoluk and Önder, 2010). Teachers need to be open-minded and analytical thinkers so that they may be able to transform their knowledge, which support students' cognition and problem solving skills. Research suggests that critical thinking abilities of teachers positively affect students' academic understanding and help students engage in deep learning activities, which may seem more difficult and abstract for many students (Unal and Ergin, 2006). However, teachers may have different thinking abilities. In their research, Beşoluk and Önder (2010) found that most of the teachers (94.7%) had scored either average or low on critical thinking abilities.

The importance of developing someone's critical thinking abilities has increased in the past decade because these skills are core life skills (Smith, 2002). Critical thinking is considered as the highest level of mental activity. It enables people to engage in the processes of making decisions and planning work (Howie, 2011). Improving critical thinking abilities inside and outside of the classroom environment is important (McGuinness, 2005). Critical thinking encourages people to shape their personal opinions and attitudes with self-confidence instead of simply restating those of other's by investigating issues from different perspectives and viewpoints with logically-reasoned arguments in order to persuade others. It is believed that critical thinkers are able to think and pursue truth by controlling their emotions and beliefs (McGuinness, 2005).

The results of critical thinking studies show that education and critical thinking must be parallel to achieve educational goals (Ozkan-Akan, 2003). Some studies suggested that some of the teachers lacked critical thinking abilities due to the deficiency of critical thinking abilities taught in college courses (Al-Qahtani, 1995). Ozkan-Akan (2003) asserted that teachers' perceptions affect the enhancement of students' critical thinking abilities either positively or negatively in classroom environment. Critical thinking abilities may enable individuals to solve personal and societal problems,

Table 1. Percentages of genders participating in the study.

Group	N	Percent	Cumulative percent
Female	108	51	51
Male	104	49	100
Total	212	100	

thereby becoming more productive and effective citizens (Costa, 1998; Howie, 2011).

Schools need teachers, who are successful in classroom management and have critical thinking abilities to help students learn, engage, and elaborate in meaningful learning activities with high expectations. Researchers have acknowledged that teachers mainly have strong beliefs about their critical thinking abilities and such abilities play an important and active role in successfully implementing teaching and management strategies in schools (Dunn, 1988; Smith, 2002; Tengku, 1994). Improving learners' behaviors may largely depend on the teachers' critical thinking abilities as well (Dunn, 1988; Smith, 2002). However, teachers' perceptions toward classroom management and their lack of sufficient theoretical and practical knowledge of thinking skills hinders their ability to facilitate the learning process (Kowalczyk et al., 2012). Essentially, it is crucial to consider how much a teacher's classroom management skill and critical thinking ability have effect on the student's behavior and discipline (Stedman and Adams, 2012).

The ability of a classroom teacher in classroom management is a critical factor in order to control students' behaviors and have students focus on learning activities in any educational setting. If teachers do not have adequate classroom management skills, disruptive student behaviors and lost instructional time may be problematic over the time (Chambliss, 1996). Therefore, it is crucial to have teachers with strong confidence and beliefs in their classroom management skills so that they may be successful educators in providing meaningful learning (Evertson and Harris, 1999). In addition to classroom management skills, research suggests that classroom teachers need have effective critical thinking abilities to foster students' cognitive skills (Howie, 2011).

While literature is available about the relationship between students' behavior and effective classroom management, not enough is known about the relationship between teachers' classroom management practices and their critical thinking abilities. Available research about this topic has provided conflicting evidence about the relationships between classroom management and critical thinking abilities of teachers. Therefore, this study thus aims to explore the relationship between teachers' classroom management skills and critical thinking abilities.

In line with this aim, the following research questions were studied:

1. What are the beliefs of high school teachers about

their own classroom management skills?

2. What are the beliefs of high school teachers about their own critical thinking abilities?

3. What is the relationship between high school teachers' classroom management skills and critical thinking abilities?

METHODOLOGY

The study used a correlational design using a quantitative approach to investigate whether there was a relationship between classroom management skills and critical thinking abilities of high school teachers. It included non-random selection of participants, who were selected by convenience sampling method. The survey method has been used as research methodology. Survey method aims to describe the situations as how they exist in the past and present. Member checking was used for validity and reliability of the study.

Participants

The quantitative study, which included non-random selection of the participants, was conducted with teachers in six high schools in Ankara, Turkey. All high schools were public schools and none of them were private or vocational schools. Survey instruments were conducted with teachers in their schools and then collected for data analysis. The study included non-random selection of the participants including high school teachers. A total of 212 high school teachers participated in the study to answer questions about their beliefs on classroom management skills and critical thinking abilities. The participants included 49% males and 51% females (Table 1). Teachers' teaching fields included math, science, literature, social studies, physical education, and foreign language teachers. They had 1-28 years of teaching experience.

Data collection tools

This study includes two instruments. The *Classroom Management Ability Scale (CMAS)* developed by Nelson (1996) and adapted by Yalçinkaya and Tonbul (2002). The reliability of the original instrument was measured and coefficient alpha (Cronbach, 1951) was .88. This result showed that the instrument was reliable. The instrument includes 25 items with a five point Likert scale. All items of the instrument include positive meanings. The rating scale has five possible responses (1 = not observed, 2 = poor, 3 = average, 4 = good, 5 = very good). Prior to this study, the instrument was pilot tested with 89 high school teachers for its reliability, and the coefficient alpha (Cronbach, 1951) was .91. The second instrument used in the study was called the *California Critical Thinking Disposition Inventory (CCTDI)*. The instrument includes six different dispositions: Inquisitiveness, Open-Mindedness, Systematicity, Analyticity, Truth-Seeking, and Self-Confidence. It was developed by Facione et al. (1995) and adapted by Kökdemir (2003). The instrument has 51 items with a five point likert scale. The original instrument was reliable as the reliability coefficient of this instrument was .78. The instrument has five possible answers (5 = strongly agree, 4 = agree, 3 = neither agree or disagree, 2 = disagree, and 1 = strongly disagree). Before this study was conducted, the instrument was pilot tested with 89 high school teachers for its reliability. After the analysis, the coefficient alpha (Cronbach, 1951) was .82.

Data analysis

This study took place in six high schools. The participants of the

Table 2. Summary of ranges, means, and standard deviations on dispositions of CCTDI.

Group	N	Min-Max	M	SD
Analyticity	212	2,14-4,86	3,52	0,44
Open-Mindedness	212	2,5-4,5	3,47	0,41
Inquisitiveness	212	2,36-4,73	3,47	0,42
Self-Confidence	212	2,33-5	3,46	0,51
Truth-Seeking	212	2,29-4,86	3,35	0,45
Systematicity	212	2,254,75	3,41	0,42

Note. CCTDI = California Critical Thinking Disposition Inventory.

study were given enough time to answer questions on the paper surveys in their schools. After data collection, the data set was imported into SPSS 20.0 for further analysis. The data were analyzed on the basis of arithmetic mean, standard deviation, paired samples t-test, and Pearson product-moment correlation coefficient. The beliefs of high school teachers about their own classroom management skills and critical thinking abilities were examined by paired samples t-test. The relationship between high school teachers' classroom management skills and critical thinking abilities was investigated by Pearson product-moment correlation coefficient. The findings of the data analysis were then examined based on the classroom management skills and critical thinking abilities of high school teachers.

FINDINGS

In this section, the findings are presented according to the beliefs of high school teachers about their own classroom management skills and critical thinking abilities. In addition, the relationships between classroom management skills and critical thinking abilities of high school teachers were analyzed based on the mean scores on CMAS and CCTDI surveys.

When dispositions of CCTDI were analyzed, high school teachers scored different mean scores on each disposition (Table 2). High school teachers received the highest mean scores on analyticity ($M = 3.52$, $SD = .44$) and the lowest mean scores on truth-seeking ($M = 3.35$, $SD = .45$). They scored same mean scores on open-mindedness ($M = 3.47$, $SD = .41$) and inquisitiveness ($M = 3.47$, $SD = .42$). High school teachers had higher mean scores on self-confidence ($M = 3.46$, $SD = .45$) than systematicity ($M = 3.41$, $SD = .42$).

After analyzing data on the beliefs of high school teachers about their own classroom management skills and critical thinking abilities, paired samples t-test findings did not show any significant results (Table 3). The findings showed that high school teachers had higher mean scores on their beliefs on classroom management skills ($M = 3.49$, $SD = .37$) than critical thinking abilities ($M = 3.45$, $SD = .2$) with conditions, $t(211) = -1.42$, $p > .01$. Although there was not a significant relationship between teachers' beliefs on their classroom management skills and critical thinking abilities, the mean scores showed that they had positive

beliefs on both measures.

The Pearson's correlation analysis was conducted to set forth the relationship between high school teachers' classroom management skills and their critical thinking abilities (Table 4). There were some negative significant relationships among self-confidence and open-mindedness ($r = -.17$) and truth-seeking and open-mindedness ($r = -.14$). On the other hand, it was evident that there were positive significant relationships among open-mindedness and analyticity ($r = .25$), inquisitiveness and open-mindedness ($r = .17$), self-confidence and inquisitiveness ($r = .28$), truth-seeking and inquisitiveness ($r = .15$), and truth-seeking and self-confidence ($r = .36$). Similarly, correlation analysis indicated some positive significant results among critical thinking ability total score and analyticity ($r = .39$), open-mindedness ($r = .49$), inquisitiveness ($r = .65$), self-confidence ($r = .41$), truth-seeking ($r = .43$), and systematicity ($r = .28$). It was concluded that there was not any significant relationship between teachers' classroom management skills and their critical thinking abilities ($r = .05$).

DISCUSSION AND CONCLUSION

This study investigated the beliefs of high school teachers about their own classroom management skills and found that teachers had positive, but non-significant beliefs about their classroom management skills while providing instruction for high school students. Therefore, we may suggest that high school teachers have similar beliefs about their classroom management skills and critical thinking abilities. In their study, Beaman and Wheldall (2000) and Simonsen et al. (2008) found that teachers, who had positive beliefs about classroom management skills had similar beliefs about the critical thinking abilities as well. In similar studies, Dunn (1988), Smith (2002), and Tengku (1994) found that teachers, who employ strong beliefs in their critical thinking abilities, are problem solvers in their classrooms and obtain strong perceptions in their classroom management.

There was not any significant relationship between teachers' classroom management skills and their critical thinking abilities. The findings showed that the relationship between classroom management and some dispositions of critical thinking ability was negative and non-significant. These dispositions include analyticity, open-mindedness, and systematicity. Such results mean that teachers with effective classroom management skills may not be effective in analyticity, open-mindedness, and systematicity. In parallel study findings, Beşoluk and Önder (2010) suggested that although it was crucial to have teachers, who were analytical thinkers and open-minded in the classrooms, their results showed that most teachers had either average or lower levels of critical thinking skills. In similar research studies, researchers found that teachers may lack in some aspects of critical thinking abilities (Ozkan-Akan, 2003; Al-Qahtani, 1995).

Table 3. Paired samples t-test results on mean scores between CMAS and CCTDI.

Group	N	Min-Max	M	SD	t	p
Classroom management skill	212	2,48-4,64	3,49	0,37	-1.42	0.16
Critical thinking ability	212	2,76-3,96	3,45	0,2		

Note. CMAS = Classroom Management Ability Scale. CCTDI = California Critical Thinking Disposition Inventory.

Table 4. Correlation matrix between teachers' classroom management skills and critical thinking abilities.

Variables	1	2	3	4	5	6	7	8
Analyticity	1,00							
Open-Mindedness	,25**	1,00						
Inquisitiveness	-,04	,17*	1,00					
Self-Confidence	-,01	-,17*	,28**	1,00				
Truth-Seeking	-,04	-,14*	,15*	,36**	1,00			
Systematicity	,02	-,11	,00	-,11	,09	1,00		
Critical Thinking Ability (Total)	,39**	,49**	,65**	,41**	,43**	,28**	1,00	
Classroom Management Skill (Total)	-,07	-,03	,13	,11	,05	-,07	,05	1,00

**Correlation is significant at the 0.01 level (2-tailed);*Correlation is significant at the 0.05 level (2-tailed).

Study findings indicated some positive and non-significant relationships between classroom management and some dispositions of critical thinking ability as well. The relationship between classroom management and inquisitiveness, self-confidence, and truth-seeking was positive. Therefore, these findings suggest that high school teachers, who have effective classroom management skills may also be effective in skills requiring inquisitiveness, self-confidence, and truth-seeking abilities. These findings have consistency with the findings of the study conducted by McGuinness (2005). He found that effective classroom teachers are self-confident as they seek the truth through their own perspectives and viewpoints with logically-reasoned arguments. In another study, Kowalczyk et al. (2012) found that there was a relationship between teacher's classroom management skills and critical thinking abilities.

The limitations of this study included the time and resource constraints which did not allow the researcher to obtain more data from different school settings. Such constraints limited generalizability of the study findings. In addition, the study was limited with high schools in municipality area of city of Ankara. The findings of the study point out the following recommendations. Efforts for the future research should build on this research with teachers in middle and elementary schools to test their beliefs about classroom management skills and its relationship with critical thinking abilities. In addition, future study should build on these findings by replicating data-informed results for teachers at different school settings.

The key findings and conclusion of this empirical

research indicated that although high school teachers employed positive beliefs about their classroom management skills and critical thinking abilities, such beliefs were not significantly different from one another. High school teachers with positive and strong beliefs in classroom management skills are successful in providing effective teaching for students. Teachers having positive critical thinking abilities are found to be effective in teaching and helping students, who engage as active learners. The key results of the data analysis also showed that there was no significant relationship between teachers' classroom management skills and critical thinking abilities.

The non-significant results included both positive and negative relationships between classroom management and the dispositions of critical thinking abilities. The relationship between classroom management and inquisitiveness, self-confidence, and truth-seeking was positive. However, the relationship between classroom management and analyticity, open-mindedness, and systematicity was negative. It is vital for the leaders in education to understand that the positive relationship between classroom management and critical thinking abilities is beneficial for teachers' teaching practices and students' effective learning. Classroom management skills and critical thinking abilities promote teachers to provide effective teaching and create a meaningful learning environment while they effectively shape the processes of making decisions and planning work for students. Therefore, stakeholders in education need to take strong measures to help teachers increase their classroom management skills and critical thinking abilities. Especially, colleges and universities have to

have quality educators, who could teach courses that promote critical thinking skills for teacher candidates as they will need such skills in real-world situations. For the teachers in the field, school districts should provide professional development, trainings, and seminars on classroom management and critical thinking abilities.

Conflict of Interests

The author has not declared any conflict of interests.

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